

the composition within limits not deleterious to its property (see col. 25, lines 51-54 of Shiraki). However, Shiraki does not disclose or suggest a clay that has been surface treated with a silane compound (component (c) of the present invention).

Coran discloses a rubber composition in which a component corresponding to component (c) of the present invention is incorporated into the composition for its "improved reinforcing properties." (Column 17, line 54 of Coran. NUCAP is a trade designation of such a clay.)

The Examiner therefore believes that it would be obvious to substitute the silane treated clay of Coran for the untreated clay of Shiraki to improve the reinforcing properties of the Shiraki composition.

It is noted that the Examiner has relied on the language in Coran that NUCAP clays, i.e., clays within the scope of component (c) of claim 1, have "improved reinforcing properties." Other clays not so treated are disclosed in the table at the bottom of column 17 of Coran; namely, "water-washed" clays and "air-floated" clays. The latter two clays do not fall within the scope of component (c) of claim 1.

The question then arises what does the word "improved" mean; improved with respect to the other listed non-treated clays or with respect to the use of no clay at all? In other words, are NUCAP clays included because they provide "improved" reinforcing properties with respect to non so treated clays or are they included because they generally are known to provide improved reinforcing properties?

Looking at Table XI in column 18 of Coran, it can be seen that many rubber compositions were prepared using equal amounts of all of six clays set forth at the bottom of column 17. While samples BB and BC that used a NUCAP clay had better

U.E. (ultimate elongation) properties than samples BE, BF, BI, BJ and BK using a water-washed clay or an air-floated clay, samples BD, BG and BH that used the same water-washed clay and the same air-floated clay had better U.E. properties than samples BB and BC. In other words, the U.E. properties are not dependent on the type of clay used, but just that clay was used.

Since Coran does not teach that one clay is any better than any other, the only conclusion that can be drawn from the statement that NUCAP clays have “improved” reinforcing properties, is with respect to no clay at all. Consequently, it might be prima facie obvious to substitute the silane treated clay of Coran for the non-treated clay of Shiraki to increase the composition’s reinforcement properties, but it would not be expected, based on the teachings of Coran, that the reinforcement properties would necessarily be any better than that that would be obtained with any other clay, particularly a water-washed clay or an air-floated clay. Applicants found, however, that a silane treated clay did unexpectedly improve the reinforcing properties of a polyphenylene ester based resin composition compared to a non-treated clay.

In support of Applicants’ position, attached is a Declaration of Mr. Toru Yamaguti, one of the inventors in this application. As set forth in the Declaration, Mr. Yamaguti conducted a number of experiments on polyphenylene ester based resin composition containing identical amounts of components a (a-1) and b (b-3) and the same amount of 1.) a silane treated clay c (c-3) [Ex. 2] and 2.) a clay that had not been silane surface treated (c-1) [Ref. Ex.] He also conducted experiments on a composition containing a different thermoplastic component b (b-2), and a silane-treated clay (c-3) [Comp. Ex. 3]; and a composition containing components a-1 and b-3, but no

clay [Comp. Ex. 4]. As noted in the Declaration, Ex. 2 and Comp Ex. 3 are set forth in Table 1 on page 22 of the specification. The Ref. Ex and Comp Ex. 4 are new to this Declaration. See page 18 of the specification for the definition of components a-1, b-2 and b-3, and page 20 for the definition of the clays c-1 and c-3 used in the compositions. Note that the untreated clay c-1 used in the Ref. Ex is "Polyfil HG90," which is the same water-washed clay used in Samples BF and BG of Coran. It is particularly noted that BG had better U.E. properties than Samples BB or BC that used NUCAP, a silane treated clay.

As noted in the Declaration, Mr. Yamaguti concluded that:

As a result of my experiments, I concluded that a polyphenylene ether based resin composition containing a styrene based thermoplastic elastomer modified with an imidazolidinone compound and a clay surface treated with a silane compound is superior to one containing an untreated clay instead of a silane treated clay while retaining the Drop impact strength of a similar composition containing no clay at all. Compare Example 2 with the Reference Example and Comparative Example 4. Note that the composition of Example 2 essentially retained the Drop impact strength and gloss of the composition of Comparative Example 4 which contained no clay, while achieving significantly improved IZOD impact values and Elongation at break properties compared to the Composition of Comparative Example 4 as well as the Composition of the Reference Example containing an untreated clay.

This could hardly have been expected from the teachings of Coran which, at best, shows that a silane-treated clay provides no better reinforcing properties than an untreated clay, i.e., a water-washed or an air-floated clay.

As noted in M.P.E.P. §716.02(a)II, evidence of unobvious or unexpected advantageous properties, "such as superiority in a property the claimed compound shares with the prior art," can rebut a prima facie case of obviousness." Also "evidence that a compound is unexpectedly superior in one of a spectrum of common properties ... can be enough to rebut a prima facie case of obviousness."

Accordingly, in view of evidence presented in Mr. Yamaguti's Declaration, it is submitted that claim 1 cannot be considered obvious over Shiraki in view of Coran. Its withdrawal as a ground of rejection of claim 1 and claims 3, 5, and 6 dependent therefrom is therefore requested.

It is believed claims 1, 3, 5 and 6 are now in condition for allowance.

An RCE is being filed with this Reply to enable the Examiner to consider the Declaration at this time.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

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By: 

Arthur S. Garrett
Reg. No. 20,338
Tel: 202 408 4091

Attached: Declaration of Mr. Toru Yamaguti

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